

AMENDMENT TO THE CLAIMS

Claims 1-14 (Cancelled)

15.(New) An arrangement of one or more structural elements for use in an electrolysis cell for production of aluminum metal from a component containing aluminum in a fused salt, where the component containing aluminum is mainly alumina and the fused salt is mainly based on mixtures of NaF and AlF₃ and CaF₂, possibly plus alkali and alkaline earth halides,

wherein the structural element is arranged in the cell's lining, or constitutes at least a part of it, and the structural element is designed with ducts formed directly in it and thereby constituting an integral part of said structural element, said ducts being arranged for the through-flow of a medium and further designed so that they can be used for active control of the side layer's thickness and heat transfer through the cell lining, and said ducts are connected to an outer circuit.

16.(New) An arrangement in accordance with claim 15, wherein the ducts are designed with a mainly circular cross-section with a smooth, star-shaped, spiked or sinusoidal surface.

17.(New) An arrangement in accordance with claim 15, wherein one or more structural elements are arranged in the side lining of the electrolysis cell to cool the electrolysis cell.

18.(New) An arrangement in accordance with claim 15, wherein one or more structural elements are arranged in the side lining of the electrolysis cell to control the layer thickness and/or for energy recovery.

19.(New) An arrangement in accordance with claim 18 in which energy is recovered from the electrolysis cell, wherein the energy is used to preheat alumina that is fed to the cell.

20.(New) An arrangement in accordance with claim 15, wherein the electrolysis cell comprises carbon anodes and/or inert anodes.

21.(New) An arrangement in accordance with claim 15, wherein the electrolysis cell comprises electrodes arranged vertically and/or horizontally.

22.(New) An arrangement in accordance with claim 15, wherein each of the structural elements is made of ceramics based on carbon, carbides, nitrides, borides or oxides or mixtures of these materials.

23.(New) An arrangement in accordance with claim 15, wherein each of the structural elements is made of carbon, silicon nitride, aluminum nitride, silicon carbide, silicon oxynitride, silicon aluminum oxynitride, titanium diboride, zirconium diboride or mixtures of these materials.

24.(New) An arrangement in accordance with claim 15, wherein each of the structural elements is made by dry or wet pressing, slip casting and/or stamping and the ducts are made by means of grooves in plates that are subsequently glued together before sintering.

25.(New) An arrangement in accordance with claim 15, wherein each of the structural elements is made using the so-called lost wax method, burnout material and/or cutting out plates for subsequent assembly in accordance with the laminar method.

26.(New) An arrangement in accordance with claim 15, wherein each of the structural elements is made using production methods that ensure gastight elements made by optimizing the green body and/or glazing/impregnation of the finished material.

27.(New) An arrangement in accordance with claim 15, wherein each of the structural elements is provided with sleeves and/or transitions for connection to an outer circuit.

28.(New) An arrangement in accordance with claim 24, wherein each of the structural elements is made using glue based on refractory cements, silicon metal, etc. to join the parts before sintering and to contribute to the elements being gastight after sintering.